

Brief smoking cessation in acute Welsh hospitals: a realist approach

Davies, Sian; Burton, Christopher; Williams, Lynne; Tinkler, Angela

Health Promotion International

DOI:

[10.1093/heapro/daz020](https://doi.org/10.1093/heapro/daz020)

Published: 01/04/2020

Peer reviewed version

[Cyswllt i'r cyhoeddiad / Link to publication](#)

Dyfyniad o'r fersiwn a gyhoeddwyd / Citation for published version (APA):

Davies, S., Burton, C., Williams, L., & Tinkler, A. (2020). Brief smoking cessation in acute Welsh hospitals: a realist approach. *Health Promotion International*, 35(2), 244-254.
<https://doi.org/10.1093/heapro/daz020>

Hawliau Cyffredinol / General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Abstract

This implementation study sought to determine what works to support brief smoking cessation (BSC) in acute hospital settings, through exploration of organisational delivery and the role of healthcare professionals. We used a realist approach, with embedded stakeholder engagement, within a large health organisation. We conducted interviews (n=27), a survey (n=279) and organisation documentation review (n=44). The final programme theory suggests healthcare professionals implement BSC when they value it as part of their role in contributing to improved patient outcomes; this is due to personal and professional influences, such as knowledge or experience. Organisational support, training and working in an environment where BSC is visible as standard care, positively influences implementation. However, the context exerts a strong influence on whether BSC is implemented, or not. Healthcare professionals make nuanced judgements on whether to implement BSC based on their assessment of the patient's responses, the patient's condition and other acute care demands. Healthcare professionals are less likely to implement BSC in dynamic and uncertain environments, as they are concerned about adversely impacting on the clinician-patient relationship and prioritise other acute care requirements. Organisations should actively promote BSC as a core function of the acute hospital setting and improve professional practice through leadership, training, feedback and visible indicators of organisational commitment. Healthcare professionals can be persuaded that implementing BSC is an acute care priority and an expectation of standard practice for improving patient outcomes.

INTRODUCTION

Smoking cessation interventions in hospital are embedded within national strategy and guidance in the United Kingdom (National Institute for Health and Clinical Excellence, NICE, 2013; Welsh Government, 2017). Healthcare professionals (HCPs) should address tobacco dependence as standard practice (World Health Organisation, 2005). However, globally smoking cessation provision in acute hospitals appears sub-optimal (Martinez 2009; Targhetta *et al.*, 2011; Slattery *et al.*, 2016). Hospitalisation has been termed a “window of opportunity” for smoking cessation (Glasgow *et al.*, 1991); a unique period that can be capitalised on to motivate patients to quit, linked to the *teachable moment* (McBride *et al.*, 2003). This is where a health event evokes strong emotional responses in an individual, due to perceptions of increased personal risk and self-concept redefinition, prompting risk-reducing health behaviours. Patients may be more receptive to smoking cessation when hospitalised with smoking-related disorders and facing enforced smoking abstinence (Twardella *et al.*, 2006).

Brief Smoking Cessation (BSC) is the process of *assessing* peoples’ smoking status, *advising* them to quit and *assisting* them to access support and nicotine replacement therapy; it is defined as less than 20 minutes (Rigotti *et al.*, 2012). In hospital intensive smoking cessation interventions delivered by a dedicated practitioner are recommended as more effective, compared to less intensive counselling delivered by HCPs responsible for other aspects of care (NICE, 2013; Rigotti *et al.*, 2012). BSC therefore, facilitates identification of patients for referral for intensive smoking cessation support.

Implementing BSC in acute hospital settings appears hampered by contextual issues (Segaar *et al.*, 2007). HCPs feel BSC is not in the patients’ best interest or there are more important priorities, often related to patient acuity (Schultz *et al.*, 2006). Furthermore, despite smoking

bans, patients smoke in hospital grounds, congregating at hospital entrances and exposing people to tobacco smoke creating the opposite image of a healthy hospital (Ratschen *et al.*, 2009). BSC in acute hospitals therefore presents an implementation challenge.

The study evaluated a Welsh organisation's implementation of BSC in three acute hospitals (A, B, C) to determine what works to support BSC. A realist approach was selected as it may explain how programmes, or interventions, work within particular contexts (Astbury, 2013). Programmes, such as the BSC intervention, are theories, which trigger *mechanisms* which are taken up, or not, dependent on the characteristics and circumstances of conditions (*context*) resulting in a varied pattern of impact (*outcome*); or context-mechanism-outcome (CMO) configurations (Pawson, 2006). Mechanisms relate to how people have choices, based on the resources within the programme in different contexts (material, social, cognitive or emotional) (Pawson and Bellamy, 2005). Context therefore influences the relationship between the mechanisms and the programme outcome(s). As interventions change with context, or due to participants' reactions; then new mechanisms are triggered; so mechanisms may generate multiple outcomes (Astbury and Leeuw, 2010).

Although BSC appears a relatively simple intervention, this belies its complexity related to HCPs' responses to context and patient interactions, which can produce variable effects on its implementation. A realist approach is useful for evaluating programmes, such as BSC, with mixed patterns of outcomes, to understand how differences may occur (Westhorpe, 2014). In a realist approach, stakeholder engagement facilitates understanding of contextual influences from multiple perspectives to help formulate and refine programme theories (Pawson and Tilley, 1997).

METHODS

The study took place in three acute hospitals in a Health Board recently formed following the merger of three organisations. The Health Board required a standard approach across all previously independent hospitals, offering an interesting perspective on contextual influences. The hospitals offer similar care provision, have large catchment areas, encompassing densely populated and rural settings, with areas of deprivation.

The organisation's strategy and policies for tobacco control is driven nationally (Welsh Government, 2017). Smoking was prohibited on hospital premises (The Smoke-free Premises Regulations, 2007). Patients were referred to a community smoking cessation programme as there was no inpatient service. All HCPs were expected to determine patients' smoking status, advise smokers to quit and, if required, refer them to the community programme and/or for Nicotine Replacement Therapy. There is some support for this opportunistic method (Aveyard *et al.* 2012).

Following the stages of Pawson and Tilley's (1997) realist evaluation cycle, an initial *programme theory* of BSC was identified through scoping the literature and stakeholder engagement with strategic partners from the Health Board and Public Health, such as managers and smoking cessation practitioners. The programme theory proposed BSC implementation is dependent on healthcare professionals' perceptions, their interaction with patients, organisational factors and context. The second stage, the *hypotheses*, is described as "what might work for whom in what circumstances" (p.85, Pawson and Tilley, 1997), this proposes programme mechanisms and which contextual factors are linked (Hewitt *et al.* 2012). A realist evidence synthesis was conducted. The search strategy was purposive, guided by the propositional programme theory, and considered an eclectic range of evidence. Terms around 'smoking cessation', 'brief' and 'hospital', were used to search MEDLINE, CINAHL, ASSIA and PsychINFO for evidence between 1990 -2014. An iterative approach

was used to select 66 sources of evidence, the resulting synthesis culminated in three theory areas:

1. Where the organisation embeds BSC as standardised practice and a visible priority, HCPs are more likely to engage with its implementation.
2. When HCPs have knowledge and skill in BSC, they have the confidence to take ownership and be accountable for its implementation.
3. In implementing BSC, the way healthcare professionals commit to interacting with patients depends on their individual beliefs and strategies in response to patient concerns and their fear of harming the clinician-patient relationship.

During the next stage (*observation*) potential CMO configurations related to the theory areas were tested in the organisation, to determine *programme specification* of what works in the implementation of BSC in acute hospital settings.

Theoretical Platform

The Consolidated Framework for Implementation Research (CFIR) guided data collection and analysis (Damschroder *et al.* 2009). This unifies key constructs from implementation theories, models and frameworks, which influence complex interventions across multiple contexts, into five domains: Intervention characteristics, Outer setting, Inner setting, Characteristics of individuals and Process. Each domain has multiple constructs with interaction between the domains. In harmony with the realist approach, examination of context is embedded within CFIR. It has been applied within implementation research to determine how interventions work (Smith *et al.* 2015). The Theory of Planned Behaviour was applied to understand factors influencing HCPs intention to deliver BSC. The theory proposes behaviours may be predicted from a persons' intention to perform them (Ajzen, 1991). Intention is predicted by attitudes, subjective norms and perceived behavioural

control. The theory can promote understanding of behaviour in implementation research (Michie *et al.* 2011).

In realist evaluation data collection design is guided by the proposed theories. For testing and refinement of the programme theory, a parallel mixed-methods approach was used, guided by the three theory areas. Mixed-methods may address the complexity of interventions through promoting understanding of professional influence on implementation, contributing towards theory development (Dixon-Woods, Agarwal, Young, Jones and Sutton, 2004). Mixed-methods facilitated understanding on outcomes related to BSC implementation and examined contextual features hypothesised to be important.

Purposeful sampling ensured the inclusion of participants who led or engaged in BSC from different professions and roles. Participants smoking status was recorded. Patients were excluded, as the focus was to determine what would support healthcare professionals to implement BSC. Stakeholder engagement was embedded throughout the study, to identify organisational documentation, potential participants and refine the programme theory.

Data was collected via semi-structured interviews, an organisational documentation review and a survey. The ‘teacher-learner’ technique was used in the interviews. This is where the researcher teaches the participant about the initial programme theory and participants refute, or confirm and refine it (Pawson and Tilley, 1997). The survey followed a validated format for constructing a brief questionnaire using the Theory of Planned Behaviour (Francis *et al.*, 2004). It was available in hard copy and electronically. Survey participants could comment on BSC, and give contact details for further information; with five survey participants also recruited for interview.

[Insert Table 1: Study Participants and Health Board Documents]

Forty four organisation documents were reviewed, 27 participants interviewed (Table 1); and 279 surveys analysed. Qualitative data from the survey and interviews was coded into constructs from the five CFIR domains, using ATLAS.ti 7 software. Findings from the survey and documentation review was added to domain constructs' codes and data organised into themes.

Analysis

Specific strategies ensured rigor. The use of mixed-methods facilitated triangulation of findings for programme theory interrogation from multiple perspectives, with validated tools. Survey data was entered into SPSS 22.0 (SPSS, Inc., Chicago, IL, USA) and Francis *et al.*'s (2004) guidance applied for multiple regression to assess the predictive value of attitudes, subjective norms and perceived behavioural control on intention to do BSC. Further correlation with generalised intention to implement BSC enabled comparison between the three hospitals, professional groups and other characteristics, such as training. Univariate analysis compared generalised intention with perception of the influence of peers, healthcare policy, the smoke-free environment, confidence to deliver BSC, knowledge and skill. The CFIR ensured important elements of the implementation were scrutinised and offered a validated framework for synthesis and analysis of findings. Data from each hospital was aggregated and applied to the CFIR matrix template for comparison of patterns. Relevant CFIR constructs for each hospital were rated for high or low influence on the implementation using CFIR rating rules (<https://cfirguide.org/wp-content/uploads/2017/04/ratingrules10-29-14.pdf>). The aggregated data within CFIR domains from all sites were adjudicated in light of the theory areas and emerging rival theories. This facilitated the process of identifying,

supporting or refuting propositional CMOs in relation to the theory areas (Table 2). Iterative testing and refinement of the integrated data enabled the final verification of relationships of three CMOs which combine to form the programme theory CMOs were discussed and confirmed among the project team and stakeholders.

[Insert Table 2: CMO configuration development]

RESULTS

The findings offered understanding on how BSC can be supported in practice, with patterns noted that impeded implementation. The majority of survey respondents (91.8%) were non-smokers, one interview participant smoked. 13% of nurses smoked compared to 1.5% of doctors. In all sites 21.5% of respondents (n=60) had attended BCS training; four of whom were smokers. There was no statistical significance in the proportions of trained respondents from each hospital (A & B: $Z = 0.084$, $p = 0.9$; Site A & C: $Z = 1.91$, $p = 0.6$; Site B and C: $Z = 1.90$, $p = 0.6$). 66% of pharmacists had attended training compared to 28% of nurses, 8% of doctors, 3% of physiotherapists, 2% of occupational therapists and 1% of radiographers. Overall 16 respondents (6%) had done intensive training; only one was a smoker.

CMO1: Prioritisation: The organisation conveys expectation that BSC is part of standard care.

The findings suggested where the organisation's smoking cessation strategy and policy were visibly embedded, HCPs prioritised BSC as standard care.

Site A (Nurse Manager) *"I think we feel obliged [to deliver BSC] yes, I think that it's moved forward from another paper pushing exercise, to what we thought it would be in the beginning to now to a patient centred issue really and to actually promote health."*

The organisation's action plan created prominent indicators publicising BSC; this involved communication of the strategy, appointing champions, funding for training, ensuring nicotine replacement availability. In the survey, training appeared to impact on the general intention score to deliver BSC (n=60) median 6.50 95% CI [5.80-6.41] compared to no training (n=219) with a median 5.67 95% CI [4.97 -5.41]; this was statistically significant $U = 4427.50$, $z = -3.935$, $p = .001$. Trained HCPs were reported to be role models. Other tangible indicators of organizational promotion included publicity material and signposting for BSC in assessment documentation.

Engaged leadership embedded BSC policy into operating plans in targeted areas across all sites, such as outpatients and specialities where smoking was a risk factor for disease processes. Leadership communicated strategic goals and prioritised BSC, adapting it into workflow systems to achieve referral targets. For example, one department developed a BSC 'reminder' stamp. Where leaders facilitated staff training, this emphasised BSC importance and cascaded responsibilities, developing a team approach. In targeted areas audit

comparison between hospitals galvanised competition to increase referrals. Collaboration promoted BSC through sharing good practice, offering expertise and support; often facilitated by Public Health practitioners.

No significance was found with the general intention to do BSC and feeling under pressure from healthcare policy ($\tau=.087$, $p=.086$). In acute wards BSC policy appeared not to be embedded; some HCPs were unaware of the requirements to deliver BSC, others did not feel it was a priority;

Site C (Pharmacist) *It's almost part of our [pre-operative] job whereas I would imagine that pharmacists seeing the patient on a ward their role is something else I work on the wards as well and I don't think I've ever really done an intervention on the ward. ... I wouldn't say on the ward I necessarily felt it was my role as such, unless the patient mentioned it to me.*

In acute wards staff training had not occurred, as pressure of work or staff shortages made staff release difficult. BSC was inadequately publicised and there was a lack of understanding about referral processes or nicotine replacement. Assessment documentation was extensive, with many HCPs not aware of BSC prompts. The lack of smoke-free sites was strongly felt to be contrary to the organisation's image as a promoter of BSC. Maintaining a smoke-free site was acknowledged a difficult issue. Some HCPs felt smokers were treated with a lack of respect; many strongly felt the organisation was not doing enough and felt ill-equipped to challenge people. No significance was found on general intention to implement BCS with feeling under pressure from the smoke-free environment ($\tau=.058$, $p=.241$).

Site C, survey commentary (Doctor) ...*the first thing that many patients see on entering the hospital site is a large group of smokers, and this sets a precedent for any guidance we give on smoking cessation to be ignored.*

CMO 2: Ownership: Making a positive difference to the patient's outcomes

The findings suggested HCPs generally intended to deliver BSC. In the survey behavioural control, attitude and subjective norms, did influence intention to deliver BCS, the total variance of the model was 36.4%, $F(3,275) = 54.05, p = .001$. *Behavioural control* ($r = .502, p = .001$) had a stronger impact on intention than *attitude* ($r = .414, p = .001$) and *subjective norm* means ($r = .298, p = .001$). There was correlation between levels of confidence to carry out BCS and intention to do so ($\tau = .451, p = .001$). Those HCPs who were confident to deliver BSC felt they had the skills for effective delivery. Interview participants linked self-confidence to professional experience, training and working in areas where BSC was accepted practice;

Site C (Pharmacist) *I think it [knowledge via training] maybe gave people a bit more ownership and a way of improving their confidence I think if you feel more confident about something you feel more empowered to do it, that's a big part.*

HCPs were less likely to intend to deliver BCS when they felt they lacked the knowledge and skills to do so ($\tau = -.218, p = .001$). This also reduced HCPs confidence to deliver BSC ($\tau = -.215, p = .001$);

Site C, survey commentary (Doctor) *I routinely ask about smoking but it is neither my role nor my area of competence to suggest nicotine replacement or providing advice regarding a smoking cessation programme.*

Professional group was the only other significant influence on BSC implementation, with doctors most likely to do BSC $F(12, 258) = 3.11, p = .005$. Doctors had most general intention to deliver BCS ($\beta = 1.93, p = .001, 95\% \text{ CI } [.940-2.925]$); then pharmacists ($\beta = 1.83, p = .001, 95\% \text{ CI } [.736-2.932]$); and then nurses ($\beta = 1.77, p = .001, 95\% \text{ CI } [.817-2.728]$). Other professions lacked statistical significance but there were small values in these groups. Estimated marginal means suggested some doctors, nurses and physiotherapists had very low general intention for doing BSC. Pharmacists were the most cohesive group. Some survey commentary was unsupportive of hospital BSC;

Site C, survey commentary (Nurse) *Often people are at their most stressed when in hospital and this is not always the best time to start smoking cessation.*

Where HCPs understood the complexity of nicotine addiction they empathised with smokers and appeared more likely to implement BSC in response to patient's needs. Interview participants indicated how increased understanding resulted from training or personal experience of tobacco addiction. The findings also suggested HCPs were likely to do BSC when this was associated with a professional duty of care. Where HCPs considered BSC part of their role, they appeared more confident in their abilities to implement it, and had a sense

of ownership. This professional impetus was often independent of organisational expectations.

Site A (Doctor) *I think the doctors have moral obligation and moral responsibility if you find smoking causing a disease it's your obligation, it's part of your duty.*

CMO Three: Professional judgement: Getting it right for the patient, through individualised strategies.

HCPs appeared to view BSC as complex in relation to challenging clinical pressures. Documentation, the assessment process, patient interaction, or smoking-related conditions, appeared to trigger the recognition of the teachable moment for BSC. As perceptions of behavioural control was of greatest significance on intention to deliver BSC, this suggests HCPs valued being able to decide whether to implement BSC, or not, depending on their professional judgement. HCPs found it easier to implement BSC where there was a clear link to the patient's condition. The data suggested the judgement process was influenced by the patient's likely receptivity and priorities for care delivery. BSC was not pursued if patients were deemed too ill, or stressed, or where it was not the patient's priority. HCPs were cautious in determining whether BSC was in the patients' best interest, or whether it would have a negative impact. They appreciated that patients may become angry. They assessed whether the time was right.

Site A, survey commentary (Nurse) *Smoking continues to be an emotive subject and despite firmly believing my patients should be given information and support and referred to services to help, I still sometimes struggle. This is mainly because they are often coping with bad news and overwhelmed with other information which influences my decision as to when to bring up the subject.*

Having time to deliver BSC was key in the decision-making process, as HCPs understood that BSC may result in devoting time to the patient. HCPs considered the clinical environment to assess whether other priorities were more pressing. HCPs were mindful of following a patient-centred, non-confrontational approach. HCPs sought to convey respect and empathy for patients; acknowledging the difficulties of addiction. However, whilst some HCPs were comfortable offering BSC, others felt burdened with other health messages they had to convey and feared making patients feel guilty. In these situations HCPs appeared to prioritise the health messages delivered;

Site A (Nurse) *So if you are going to say, 'you smoke, you're fat and you're drinking too much' you're in a bit of an overload situation aren't you?*

The resulting programme theory proposes organisations need to persuade HCPs that BSC is part of their role in acute hospitals. HCPs require support to develop confidence and skill in BSC; as they make judgements on when to implement it. Where HCPs value BSC and understand the contribution their role can make, BSC has moral salience for them and they strive to ensure its implementation. Core concepts can be seen in Figure 1.

[insert FIGURE 1: THE CONCEPTUAL MODEL OF THE PROGRAMME THEORY here]

DISCUSSION

In this study where the organisation invested and prioritised BSC, it became standard care. Persuasion, through communication, leadership and visible investment, was identified as an underlying mechanism. Persuasion is a symbolic process rich with cultural meaning (Perloff, 2010). Where the organisation used credible leaders this increased the visibility of BSC and persuaded HCPs to prioritise it. Social cognition theory may explain how leaders raise the profile of BSC (Bandura, 1977). It suggests knowledge acquisition and behaviour is influenced by observing others, leading to social modelling of behaviours and attitudes. Organisational persuasion also manifested through prominent indicators, such as prompts in assessment documentation. These can be interpreted as nudges; which are a subtle form of persuasion. Nudge theory explains how nudges guide people's decisions, whilst allowing them freedom to choose (Thaler and Sunstein, 2009). Choice architecture may structure people's behaviour through incentives, mapping, giving feedback and structuring complex choices. In this study these were evident in documentation, referral pathways, and feedback through audit provided a competitive incentive.

The organisation attempted to frame BSC as part of standard a care; framing re-orientates thinking (Chong and Druckman, 2007). BSC resonated with HCPs particularly where this was linked to disease processes in their patients, but some HCPs, despite concern of smoking's harms, were bound by their framing of hospital as not a place for health promotion and not their role. The lack of a smoke-free environment further discouraged HCPs as they felt the organisation did not value BSC. For some professional groups organisational persuasion had not worked, with survey results suggesting some resistance to BSC.

However, where HCPs felt persuaded by the organisation to do BSC they felt it was everybody's role. The findings suggested that self-efficacy is vital for implementing BSC. Confidence to implement BSC was facilitated by organisational investment in training. Where HCPs felt BSC a duty of care, it had salience for them and they appeared more likely to implement it. Moral salience triggers behaviour consistent with meanings associated with accepted morality (Stets and Carter, 2011). Ownership has been linked to its salience (Belanger and Meguid, 2008), with motivation for ownership grounded in self-identity (Pierce *et al.*, 2003). This was evident in HCPs who implemented BSC; they defined themselves as a health promoter within their acute role.

Where HCPs made decisions on the appropriateness of BSC they did so understanding they retained significant control over patient care. Evidence-based practice may reduce decision-making variability by simplifying judgements through protocol-based care, but may create tension between standardisation and individualised decision-making (Rycroft-Malone *et al.*, 2009). Yet the complexity of implementing evidence into dynamic, uncertain environments may be unsuited for standard approaches, as nuanced judgements may be more appropriate. In acute care contexts HCPs often dismissed documentation nudges, and judged that BSC was not a priority, nor in the patients' best interests. Dynamic situations bring different task goals into conflict; goal conflict resolution is an important element in judgement (Maule, 2001).

HCPs appeared to adopt a tentative approach to BSC, concerned they may alienate the patient. However the 'teachable moment' proposes a strong emotional response as a cue to patient action to quit (McBride *et al.*, 2003). The findings suggested some HCPs will prioritise BSC, irrespective of the time it takes, if they value it and have the self-efficacy to negotiate complex patient responses. Yet some HCPs seemed to fear emotional responses,

possibly envisaging they would have to prioritise time to support the patient or ‘mend’ the clinician-patient relationship.

The data from this study suggest s HCPs use both implicit (intuitive/tacit) and explicit (rationale/analytical) forms of cognition to make professional judgements to do BSC, or not, dependent on context and assessment of patient’s responses. Judgements may be explained by Hammond’s Cognitive Continuum (Hammond, 1978); which contains six modes of judgements, ranging from analytical, where there are few cues to interpret and more time, to intuitive, in unstructured tasks with multiple cues available but little time, with blended cognitions centrally. Effective decisions result from matching tactics to the demands of the situation. Well-structured tasks could be related to when BSC is implemented in specialist services, for example respiratory, where smoking cessation was a priority. Possibly within these encounters, tasks are more structured, facilitating adherence to prompts; so judgements to do BSC are more rational/analytical. In more acute environments, such as wards, contexts are dynamic and time may be limited. Here HCPs use intuition for judgements on BSC, they may respond to nudges in documentation but maybe negatively influenced by environmental cues and competing priorities. HCPs also may associate different judgement processes with different contexts, such as the pharmacist who implemented BSC in outpatient clinics, but not on the wards, possibly perceiving the wards were too unpredictable for the analytical judgement process she was used to for BSC.

Although the programme theory was only tested in one organisation, multiple areas were examined from three sites. A mixed-methods design has inherent challenges but the programme theory guided data collection effectively, ensuring the theoretical perspective of the Theory of Planned behaviour did not limit analysis. The CHIR facilitated scrutiny of complexity, however data assigned to some constructs resulted from general observations not objective assessment. The patient’s voice was omitted; potentially neglecting important

information on the complexity of the teachable moment in BSC. Finally few HCPs who smoked participated.

The programme theory explains the impact of contexts in triggering, or suppressing, the mechanisms influencing BSC implementation in hospitals. HCPs make nuanced judgements to do BSC, or not, based on their interactions with patients and assessment of care priorities. In dynamic clinical areas, BSC appeared to be implemented haphazardly, based on intuitive rather than rationale judgements. However, where HCPs implement BSC they have the confidence to manage patient responses through individualised strategies; this is facilitated where HCPs have knowledge and skill, and where BSC is accepted practice.

Organisational investment in BSC through training, prominent indicators (or nudges) and supportive leadership can persuade HCPs to prioritise BSC as standard hospital care. Whilst engaging HCPs through training and education are recognised smoking cessation strategies in acute hospitals (NICE, 2013); the programme theory explains that this develops supportive contexts that facilitate ownership of BSC. Recently the Welsh Government has announced enforceable smoking bans on hospital grounds; however in countries where this is not in place, smoking shelters may reduce the visibility of smokers to support the mechanism of persuasion in creating a healthy hospital image. Further research is recommended to develop understanding on the intricate judgements for the teachable moment, influenced by time and competing priorities. HCPs, when confronted by multiple life-style risks, judge which issue to address; potentially omitting BSC. Identification of strategies to ensure important risk factors are not neglected is also an important area for research.

REFERENCES

- Ajzen, I. (1991) The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*, 50, 179-211.
- Astbury, B. (2013) Some reflections on Pawson's Science of Evaluation: A Realist Manifesto. *Evaluation*, 19, 383-401.
- Astbury, B. and Leeuw, F.L. (2010) Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation. *American Journal of Evaluation*, 31, 363.
- Aveyard, P., Begh, R., Parsons, A. and West, R. (2012) Brief opportunistic smoking cessation interventions: a systematic review and meta- analysis to compare advice to quit and offer of assistance. *Addiction*, 107(6),1066-73. doi:10.1111/j.1360-0443.2011.03770.x
- Bandura, A. (1977) *Social Learning Theory*. Engelwood Cliffs: Prentice Hall.
- Belanger, E. and Meguid, B.M. (2008) Issue Salience, issue ownership, and issue-based vote choice. *Electoral Studies*, 27, 47-491.
- Chong, D. and Druckman, N. (2007) Framing Theory. *Annual Review of Political Science*, 10, 103-26.
- Damschroder, L. J., Aron, D., Keith, R., Krish, S.R., Alexander, J.A. and Lowery, J.C. (2009) Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science*, 4,50.doi:10.1186/1748-5908-4-50
- Dixon-Woods, M., Agarwal, S., Young, B., Jones, D. and Sutton, A. (2004) *Integrative approaches to qualitative and quantitative evidence*. NHS Health Development

- AgencyFrancis, J.J., Eccles, M.P., Johnston, M., Walker, A., Grimshaw, J., Foy, R., Kaner, E.F.S., Smith, L. and Bonetti, D. (2004) *Constructing Questionnaires Based on the Theory of Planned Behaviour. A Manual for Health Services Researchers*. University of Newcastle: Centre for Health Services Research.
- Glasgow, R.E., Stevens, V.J., Vogt, T.M., Mullooly, J.P. and Lichtenstein, E. (1991) Changes in smoking associated with hospitalization: quit rates, predictive variables, and intervention implications. *American Journal of Health Promotion*, 6, 24 -9.
- Hammond, K.R. (1978) Towards increasing competences of thought in public policy formation. In Hammond, K.R. (ed), *Judgement and Decision in Public Policy Formation*. Westview Press, Boulder, CO, pp. 11-32.
- Hewitt, G., Sims, S. and Harris, R. (2012) The realist approach to evaluation research: an introduction. *International Journal of Therapy and Rehabilitation* 19 (5), 250 -259.
- Martinez, C. (2009) Barriers and Challenges of Implementing Tobacco Control Policies in Hospitals: Applying the Institutional Analysis and Development Framework to the Catalan Network of Smoke-Free Hospitals. *Policy, Politics & Nursing Practice*, 10:, 224. doi:10.1177/1527154409346736
- Maule, A.J. (2001) Studying judgement: Some comments and suggestions for future research. *Think Reason*, 7, 1. doi: 10.1080/13546780042000055
- McBride, C.M., Emmons, K.M. and Lipkus, I.M. (2003) Understanding the potential of teachable moments: the case of smoking cessation. *Health Education Research* 18, 156 – 170.

- Michie, S., van Stralen, M.M. and West, R. (2011) The Behavioural Change Wheel: A new method for developing and characterising behavioural change interventions. *Implementation Science*, 6, 42.doi:10.1186/1748-5908-6-42.
- National Institute for Health and Clinical Excellence (NICE) (2013) *Smoking cessation in Secondary care: acute, maternity and mental health services*. Retrieved from: <https://www.nice.org.uk/guidance/ph48> (27 November 2018 date last accessed).
- Pawson, R. (2006) *Evidence-based Policy. A Realist Perspective*. Sage, Great Britain.
- Pawson, R. and Bellamy, J. (2005) Realist Synthesis: An Explanatory Focus for Systematic Review. In Popay, J. (ed), *Methodological Issues in the Synthesis of Evidence from Diverse Study Designs*, Health Development Agency, London, pp 83-93.
- Pawson, R. and Tilley, N. (1997) *Realist evaluation*. Sage, London.
- Perloff, R.M. (2010). *The Dynamics of Persuasion. Communication and attitudes in the 21st century*, 4th edition. Routledge, Oxon.
- Pierce, J.L., Kostova, T. and Dirks, K. (2003) The State of Psychological Ownership: Integrating and Extending a Century of Research. *Review of General Psychology*, 7 (1), 84 -107.
- Ratschen, E., Britton, J., Doody, G.A., Leonardi-Bee J. and McNeil A. (2009) Tobacco dependence, treatment and smoke-free policies: a survey of mental health professionals' knowledge and attitudes. *General Hospital Psychiatry*, 31, 576-582.
- Rigotti, N., Clair, C., Munafo, M.R. and Stead, L.F. (2012) Interventions for Smoking Cessation in Hospitalised Patients (Review) *Cochrane Database of Systematic Reviews* 5, Art. No.: CD001837. DOI: 10.1002/14651858.CD001837.pub3.

- Rycroft-Malone, J., Fontenla, M., Seers, K. & Bick, D. (2009) Protocol-based care: the standardisation of decision-making. *Journal of Clinical Nursing*, 18, 1490- 1500.
- Schultz, A.S.H., Bottorff, J.L. and Johnson, J.L. (2006) An ethnographic study of tobacco control in hospital settings. *Tobacco Control*, 15, 317-322. doi: 10.1136/tc.2005.015388.
- Segaar, D., Willemsen, M.C., Bolman, C. and De Vries, H. (2007) Nurses adherence to minimal contact smoking cessation on cardiac wards. *Research in Nursing & Health*, 30,429–444.
- Slattery, C., Freund, M., Gillham, K., Wolfenden, L., Bisquera, A. and Wiggers, J. (2016) Increasing smoking cessation care across a network of hospitals: an implementation study. *Implementation Science*, 11, 28. doi: 10.1186/s13012-016-0390-x.
- Smith, L.R., Damschroder, L., Lewis, C.C. and Weiner, B. (2015) The Consolidated Framework for Implementation Research: advancing implementation science through real-world applications, adaptations, and measurement. *Implementation Science*,10 (Suppl 1), A11. Doi:10.1186/1748-5908-10-S1-A11.
- Stets, J.E. and Carter, M.J. (2011) The Moral Self: Applying Identity Theory. *Social Psychology Quarterly*, 74, (2),192 -215.
- Targhetta, R., Bernhard, L., Sorokaty, J-M., Balmes, J-L., Nalpas, B., and Perney, P. (2011) Intervention study to improve smoking cessation during hospitalization. *Public Health*, 125, 457-463.
- Thaler, R. H. and Sunstein, C.R. (2009). *Nudge Improving Decisions About Health, Wealth, and Happiness*, 2nd edition, Penguin, USA.

The Smoke-free Premises etc. (Wales) Regulations, 2007, (SI.787,W.68). National Assembly for Wales, Cardiff.

Twardella, D., Loew, M., Rothenbacher, D., Stegmaier, C., Ziegler, H. and Brenner, H.

(2006) The diagnosis of a smoking-related disease is a prominent trigger for smoking cessation in a retrospective cohort study. *Journal of Clinical Epidemiology*. 59, 82-89.

Welsh Government (2017) *Tobacco Control Delivery Plan for Wales 2017- 2020*.

<https://gov.wales/docs/dhss/publications/170915tobaccoplanen.pdf> (18th August 2018 date last accessed).

Westhorp, G. (2014) *Realist Impact Evaluation*. An introduction. Methods lab.

<http://www.odi.org/publications/8716-methods-lab-realist-impact-evaluation-introduction> (18th August 2018 date last accessed).

World Health Organization (2005) *The Role of Health Professionals in Tobacco Control*.

http://www.who.int/tobacco/resources/publications/wntd/2005/bookletfinal_20april.pdf (27 July 2018 date last accessed).